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Chen

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(54) **BOX STRUCTURE FOR INTELLECTUAL CUBE**

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(51) **Int. Cl.**⁷ **B65D 85/20**; B65D 5/50; A63F 9/06; F16M 11/00

(52) **U.S. Cl.** **206/315.1**; 206/765; 211/85.7; 248/146; 248/176.1; 248/180.1; 273/153 R; 312/284

(58) **Field of Search** 206/315.1, 756, 206/765, 769, 486, 563; 273/153 R, 155, 157 R, 241; 248/176.1, 146, 180.1; 211/13.1, 85.7, 133.1; 312/284, 114

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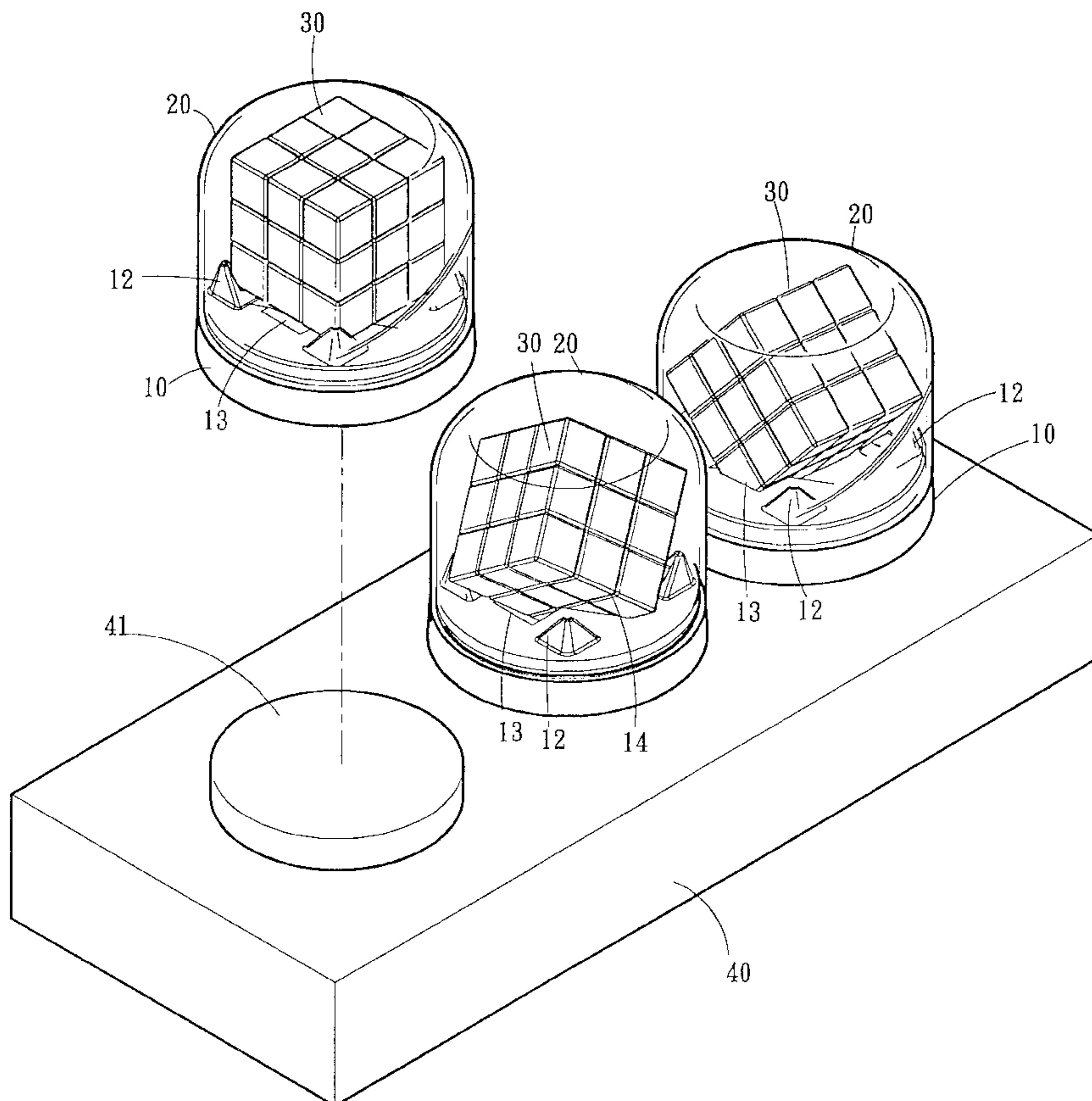
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(57) **ABSTRACT**

A box structure specifically for disposing an intellectual cube for displaying and as a packing box is disclosed. The box structure is comprised of a base and a transparent cover, the base is provided with a surrounding annular groove to allow the cover to place thereon for covering. The base is provided on the top thereof with a disk-shaped receiving platform having therein a groove for a wedge-shaped part and a groove for a pyramid-shaped part. With angular difference of the grooves, the intellectual cube packed can be disposed in multiple orientations; and the inner wall of the transparent cover abuts the upper corners of the intellectual cube to prevent the intellectual cube from shaking in the box during shipping and selling.

8 Claims, 9 Drawing Sheets



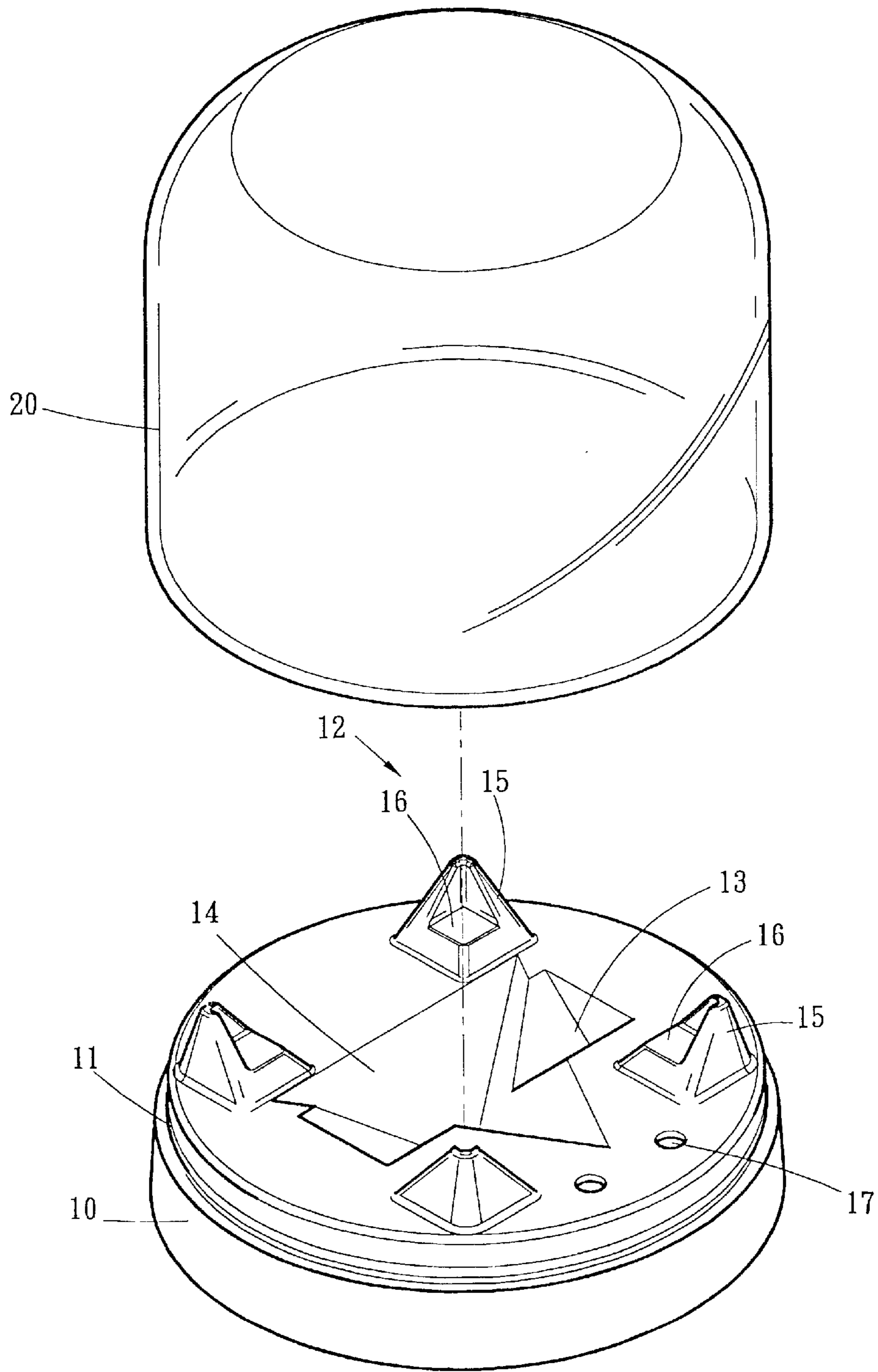


FIG. 1

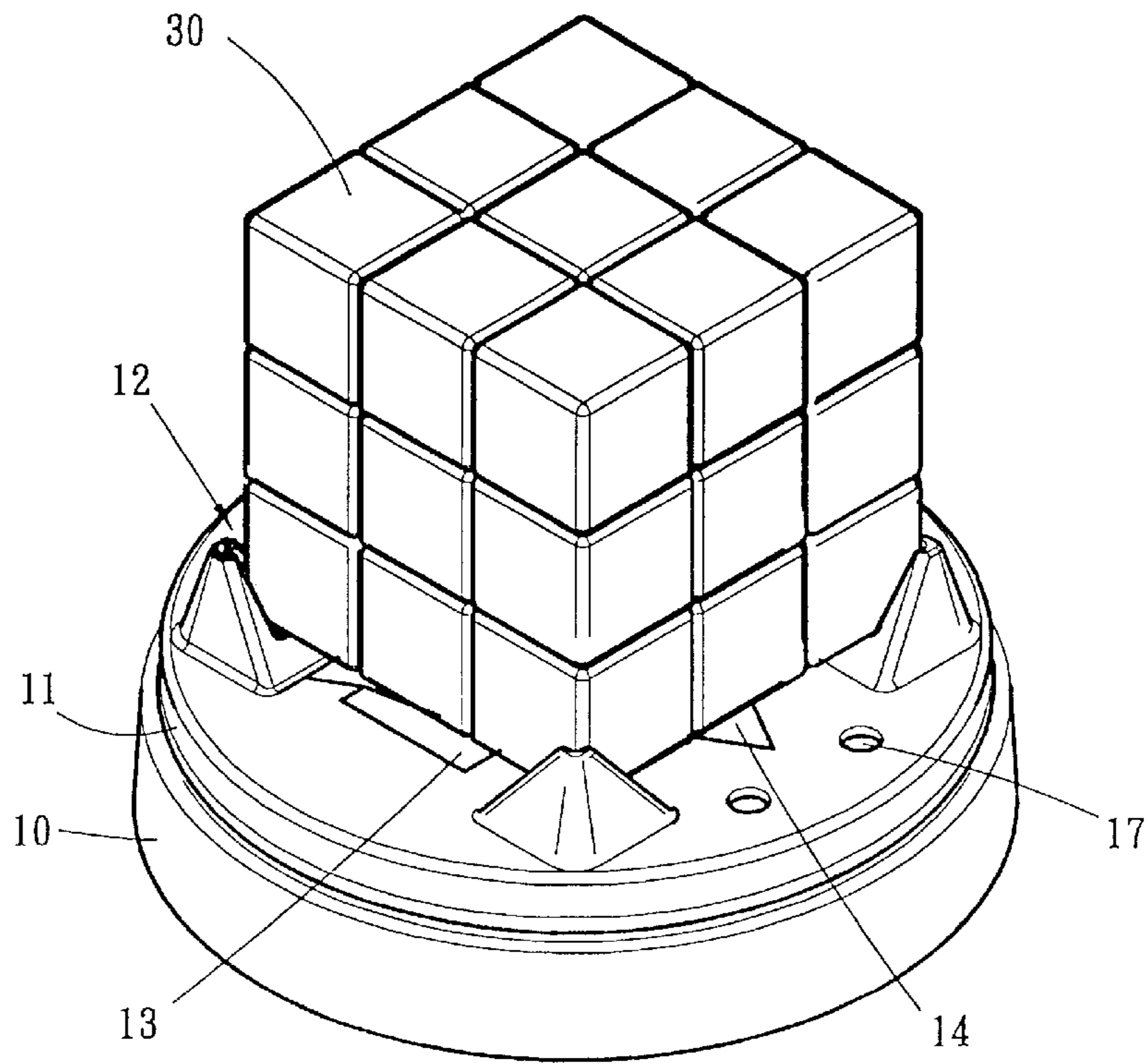


FIG. 2

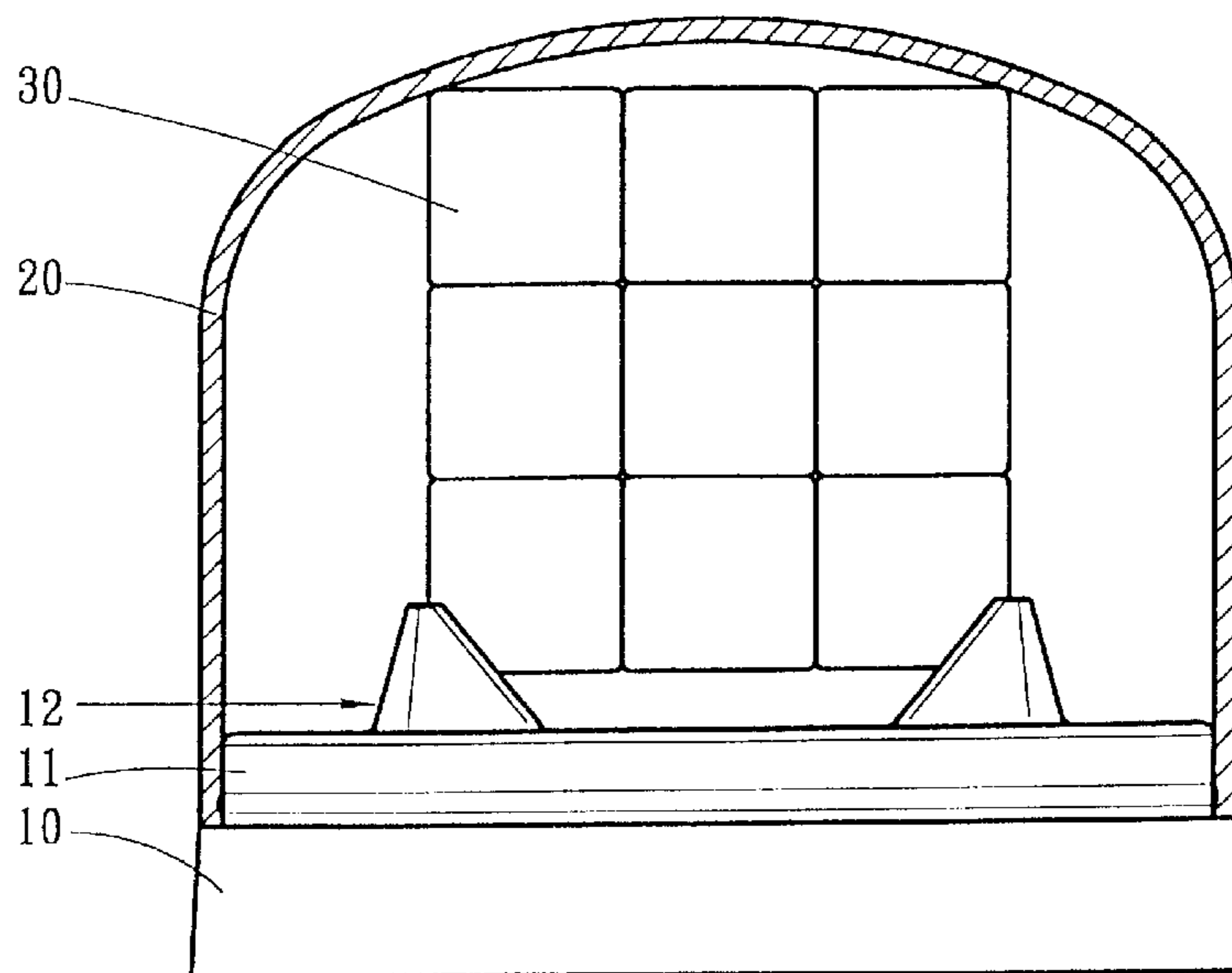


FIG. 3

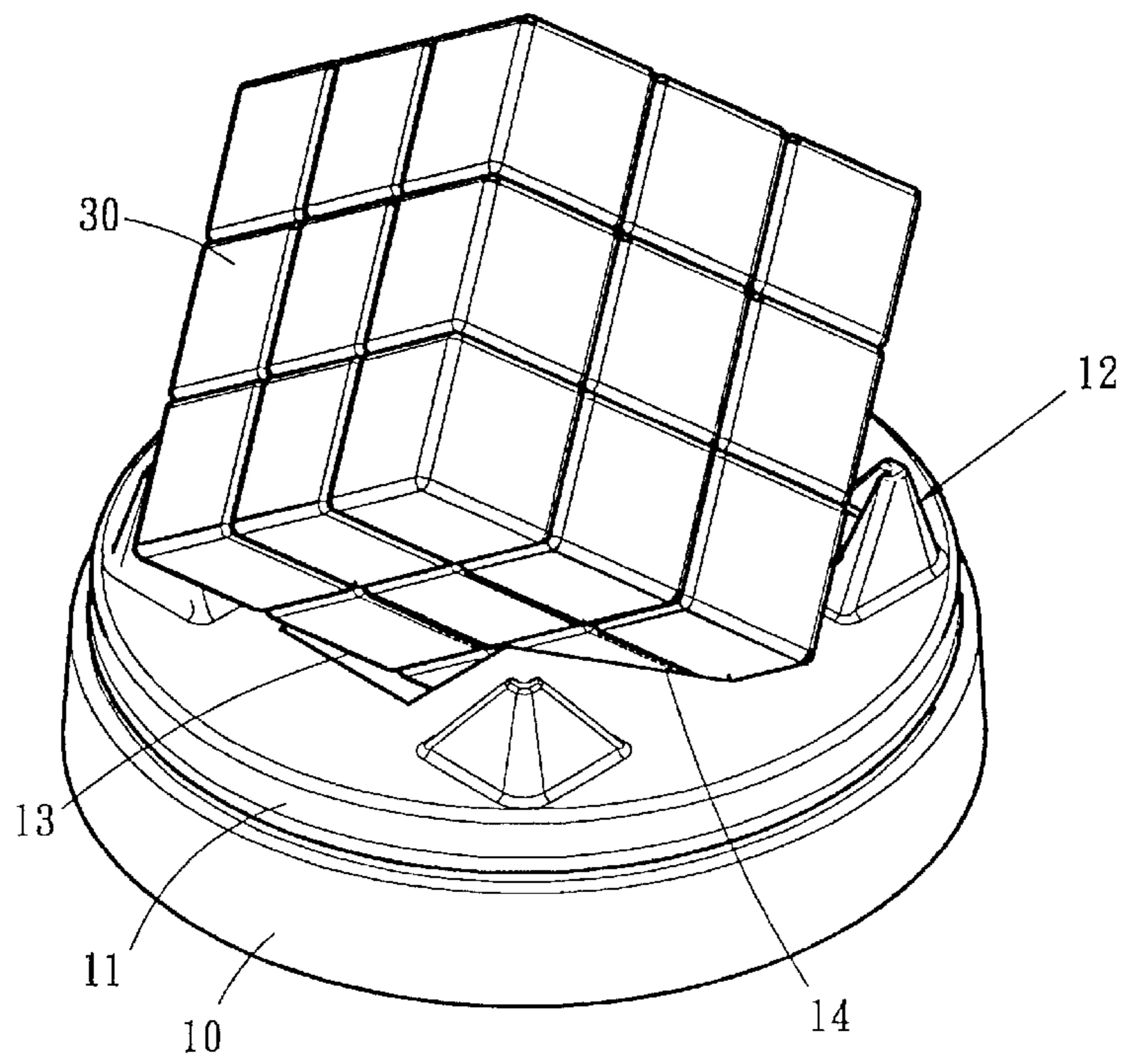


FIG. 4

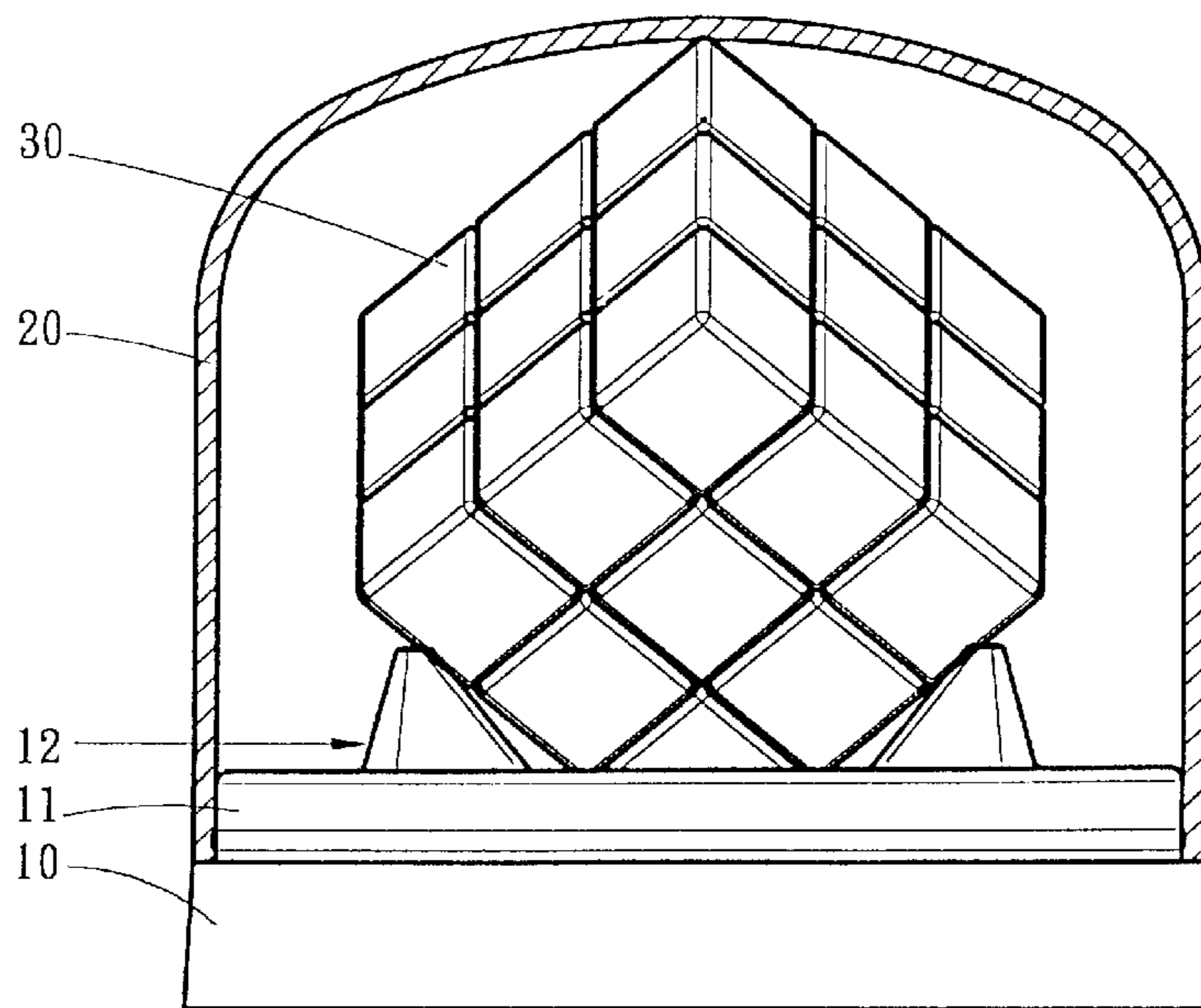


FIG. 5

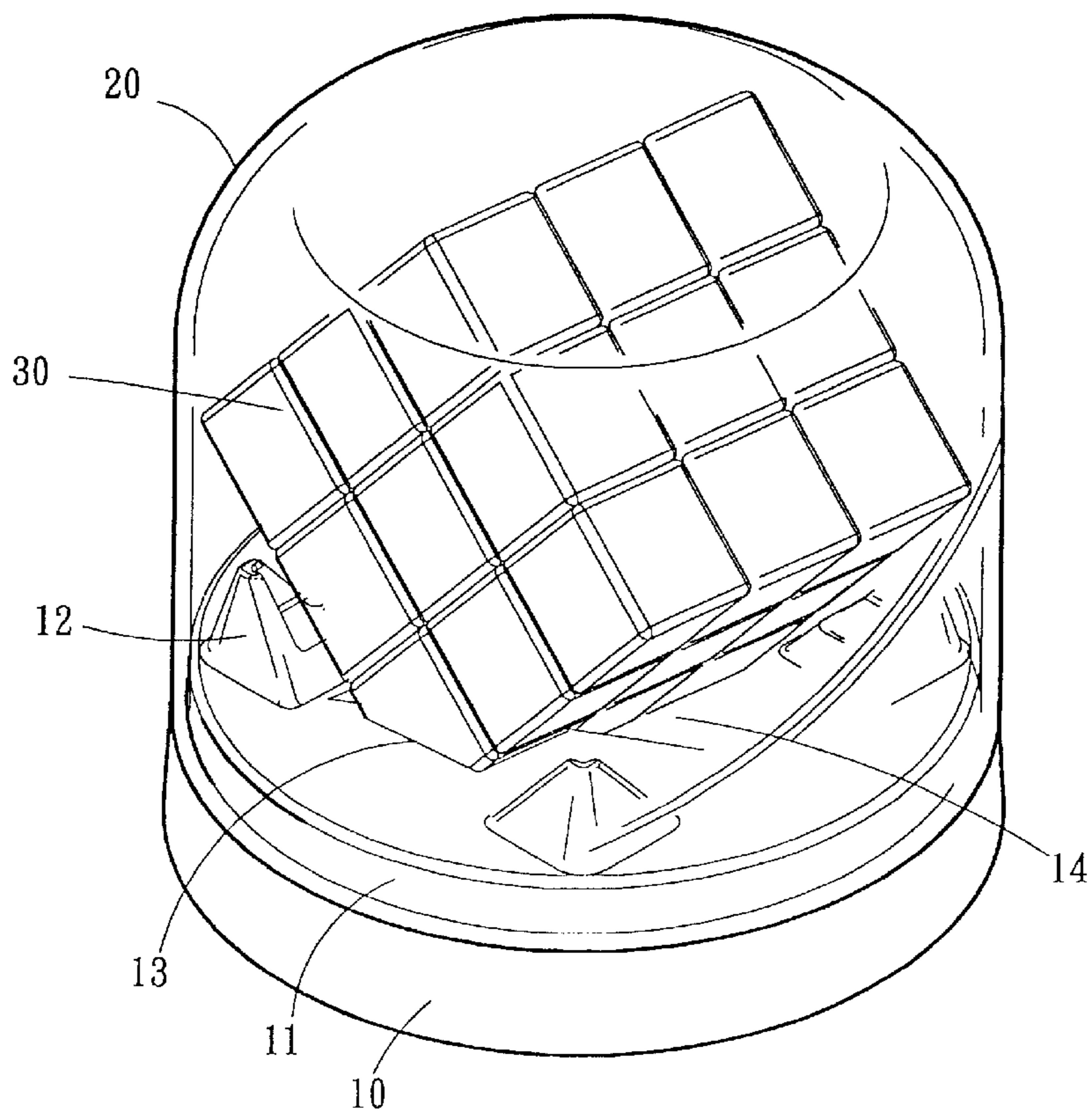


FIG. 6

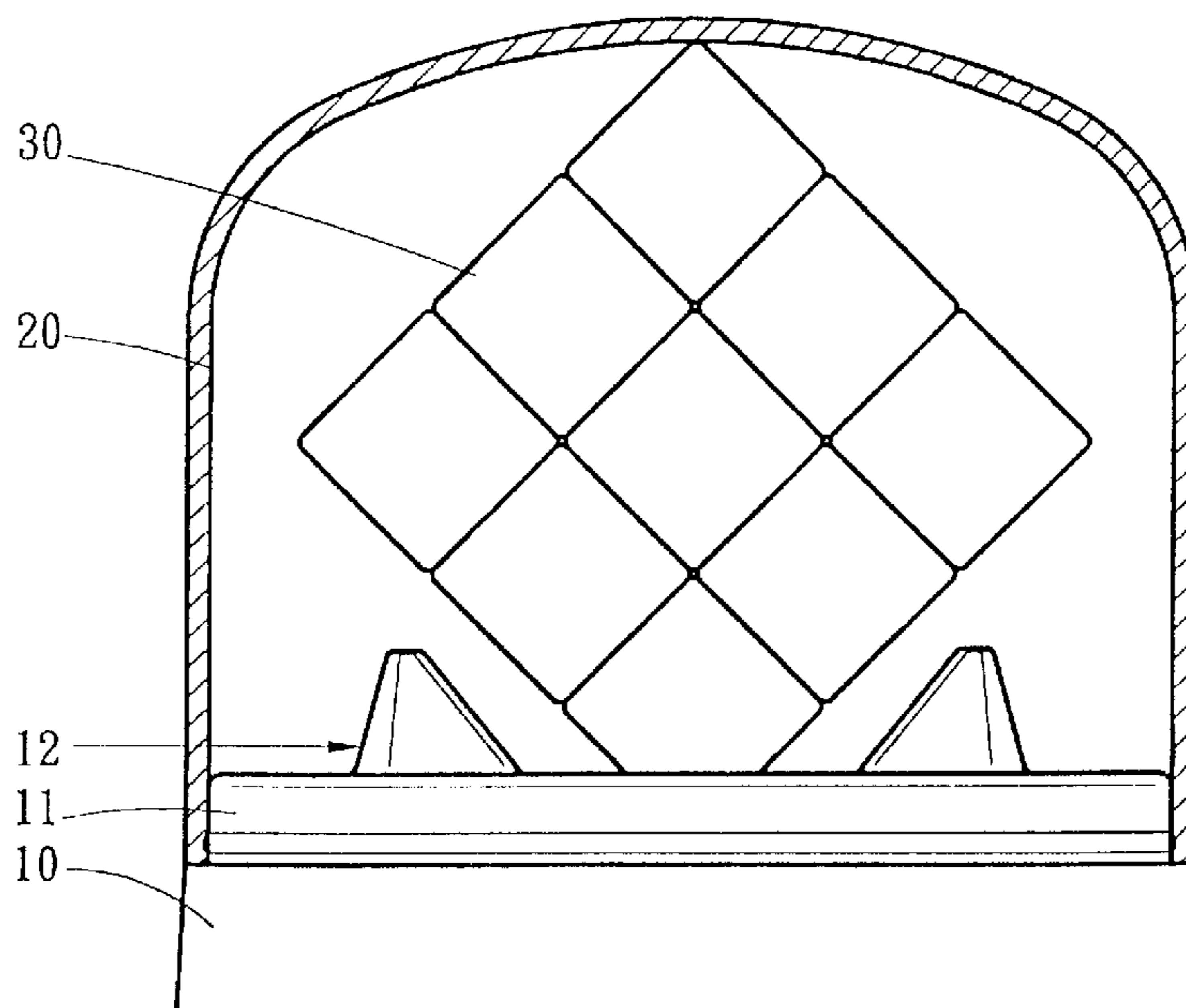


FIG. 7

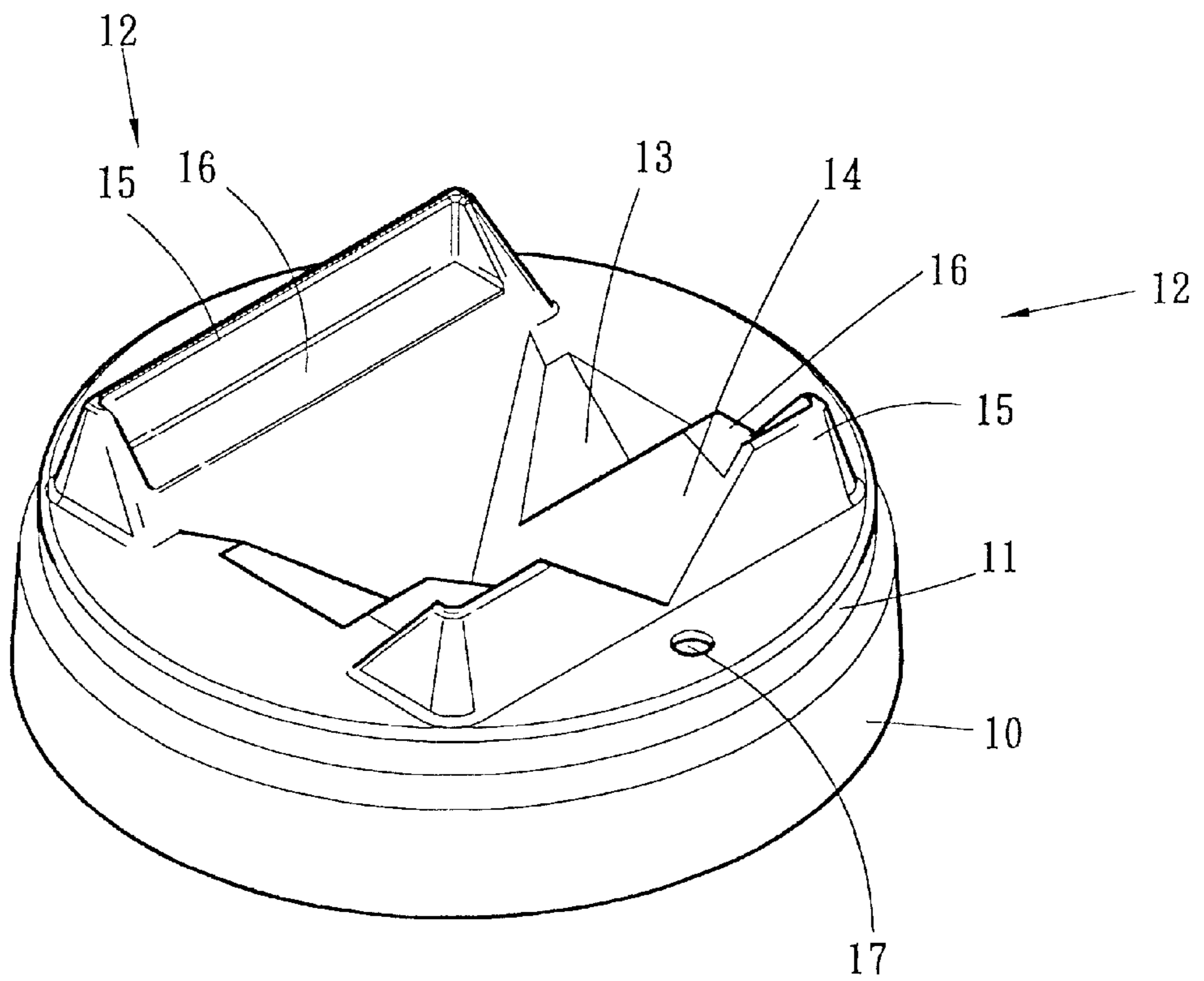


FIG. 8

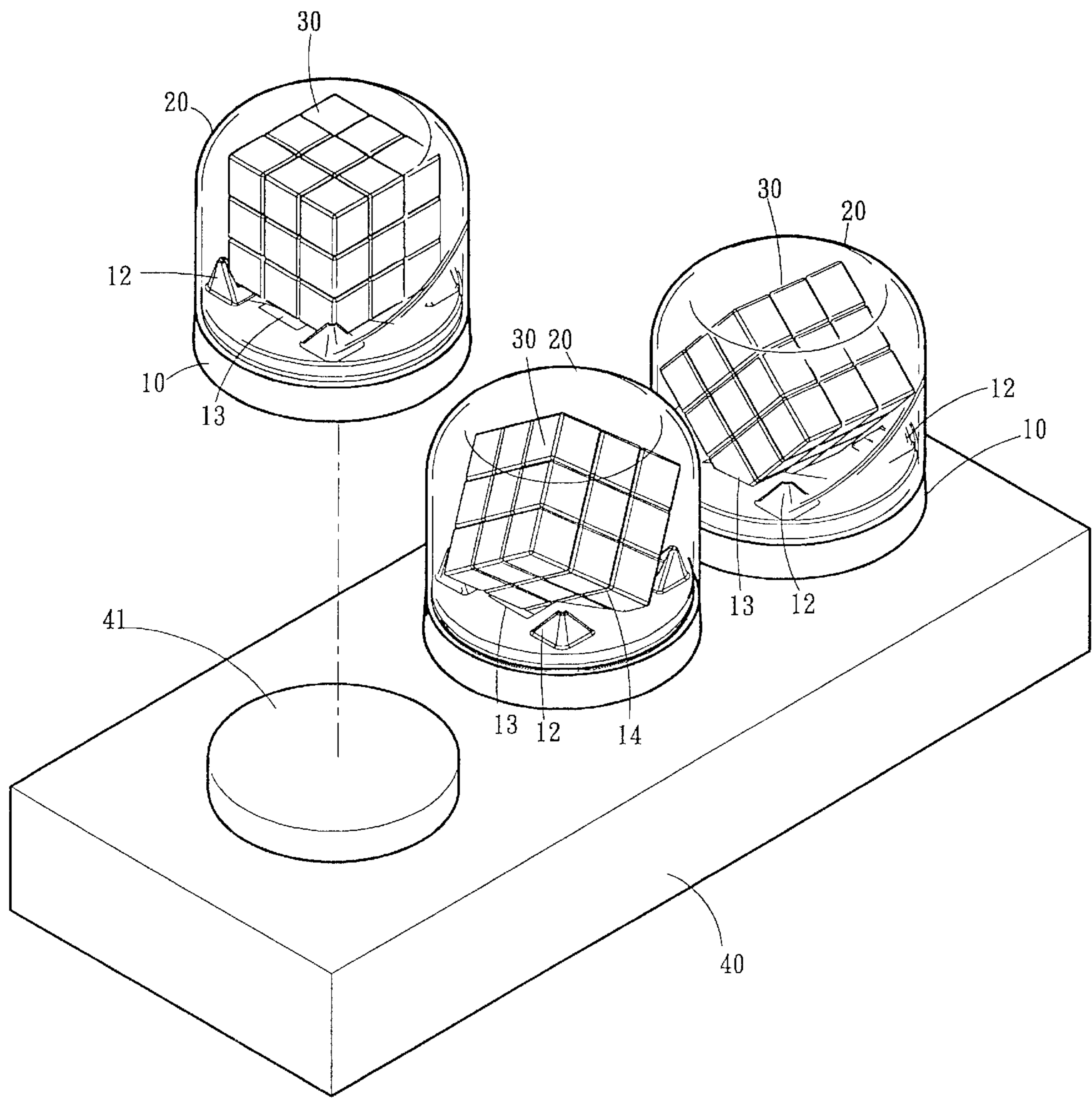


FIG. 9

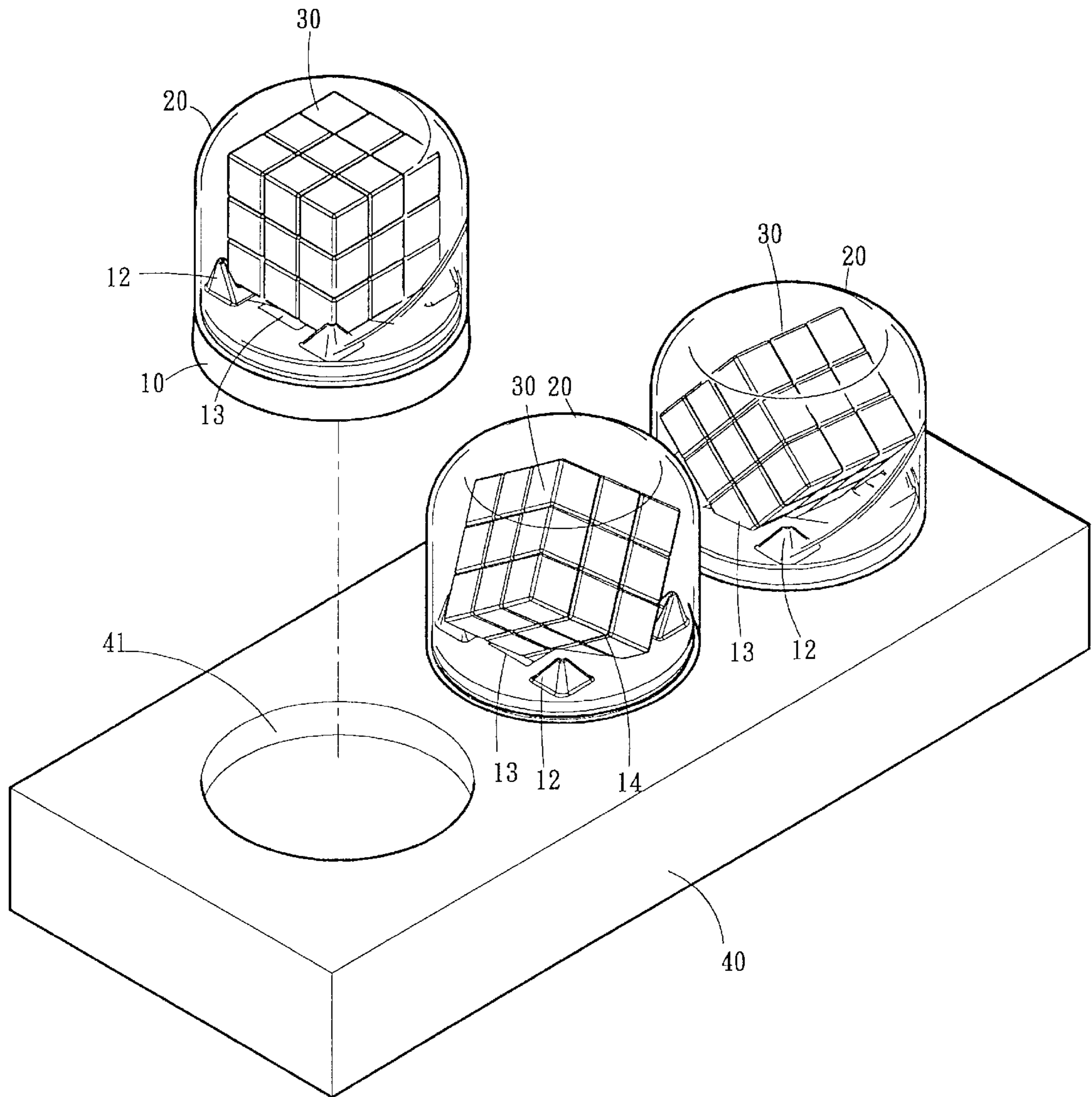


FIG. 10

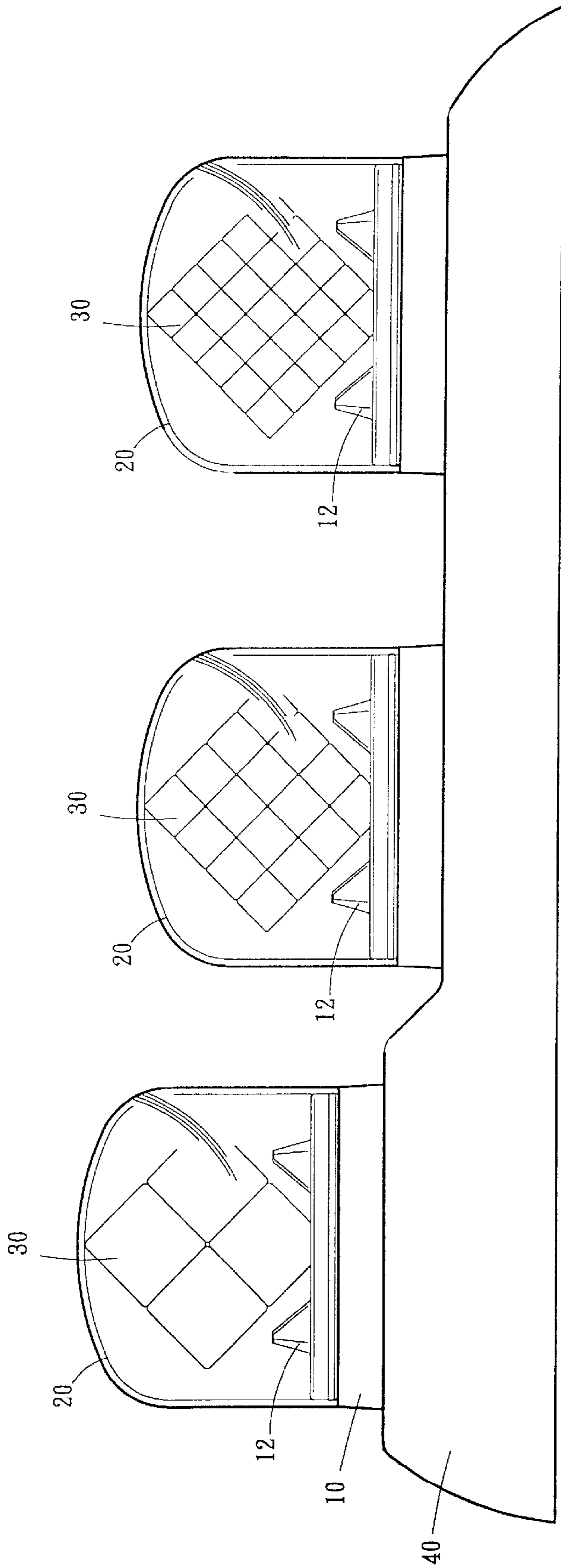


FIG. 11

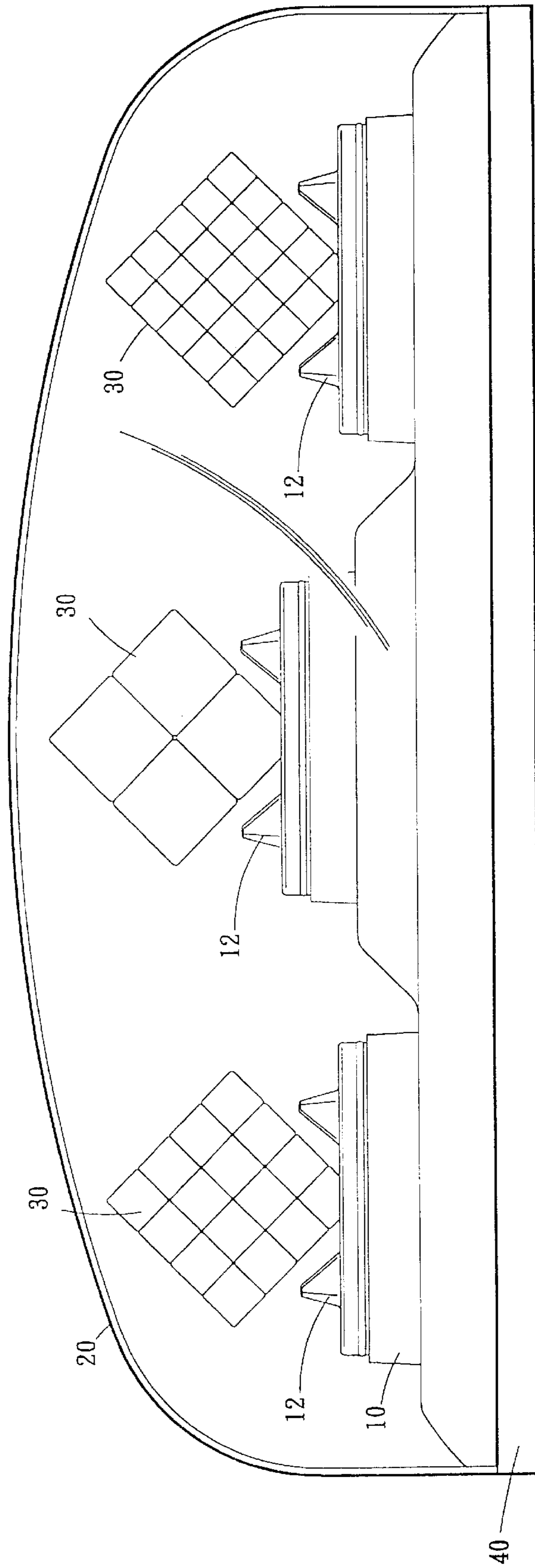


FIG. 12

BOX STRUCTURE FOR INTELLECTUAL CUBE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention is related to a box structure for disposing intellectual cubes in multiple orientations for displaying and as a packing box, the intellectual cubes in the box structure will not be subjected to displacement when in shipping.

2. Description of the Prior Art

An intellectual cube is a square cube having same amount of check like sections in each side thereof, these checks can be moved relative to one another to get an indicated arrangement for the purpose of enhancing intellectuality.

SUMMARY OF THE INVENTION

The primary object of the present invention is to provide a box structure for disposing an intellectual cube for displaying and as a packing box. The box structure is comprised of a base and a transparent cover, the base is provided with a surrounding annular groove to allow the cover to place thereon for covering. The base is provided on the top thereof with a disk-like receiving platform having therein a groove for a wedge-shaped part and a groove for a pyramid-shaped part, with angular difference of the grooves, the intellectual cube can be disposed in multiple orientations for enhancing efficiency of display.

Another object of the present invention is to provide a box structure, wherein when the base and the transparent cover are put together by covering, no matter which orientation the intellectual cube is allocated, the inner wall of the transparent cover abuts the upper corners of the intellectual cube to prevent the intellectual cube from shaking in the box, thereby the intellectual cube is well protected.

Another object of the present invention is to provide a box structure for convenience of packing of the intellectual cube. With which, the intellectual cube is prevented from shaking in the box and can be displayed. Packing of the intellectual cube can be completed when it is well placed in the box, and can be sold directly. By such packing, commercial value of the intellectual cube can be increased.

A further object of the present invention is to provide a box structure for convenience of displaying of a plurality of intellectual cubes. A bench is provided for this purpose, and is provided on the top thereof with a plurality of insertion seats for inserting in the bottom of a plurality of bases. Thereby, the intellectual cubes can be disposed in various orientations on different bases. This arrangement allows a plurality of intellectual cubes to be disposed on the bench in various orientations for displaying.

The present invention will be apparent in its practical structure and objects after reading the detailed description of the preferred embodiments thereof in reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a perspective view of the present invention;

FIG. 2 is a perspective view of the first embodiment of the present invention;

FIG. 3 is a front view of the first embodiment of the present invention;

FIG. 4 is a perspective view of the second embodiment of the present invention;

FIG. 5 is a front view of the second embodiment of the present invention;

FIG. 6 is a perspective view of the third embodiment of the present invention;

FIG. 7 is a front view of the third embodiment of the present invention;

FIG. 8 shows another embodiment of the present invention;

FIGS. 9, 10, 11 and 12 are embodiments showing using of the present invention on various benches.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, an intellectual cube **30** of the present invention is comprised of a base **10** and a transparent cover **20**, wherein:

The base **10** is provided with a surrounding annular groove **11**, and is provided on the top thereof with a disk-like receiving platform **12** having therein a groove **13** for a wedge-shaped part and a groove **14** for a pyramid-shaped part, with angular difference of the grooves, the intellectual cube **30** can be disposed in multiple orientations (also referring to FIGS. 2, 3, 4 and 6). Wherein, the disk-like receiving platform **12** is provided with a plurality of protruding seats **15** corresponding in positions to those of the four corners of the intellectual cube **30** (as shown in FIGS. 1 or 8). The protruding seats **15** are provided each with an open groove **16**; the distance between every two open grooves **16** is exactly for embedding of the intellectual cube **30** within the limitation of the four protruding seats **15**. The groove **13** for a wedge-shaped part is formed directly by providing a "V" shaped groove on the top surface of the base **10**, and can be inserted obliquely therein the intellectual cube **30**. The groove **14** for a pyramid-shaped part is formed directly by providing an inversed pyramid-shaped groove on the top surface of the base **10**, and can be inserted therein a pyramid-shaped part of the intellectual cube **30**.

The transparent cover **20** is for embedding in the surrounding annular groove **11** of the base **10**; the inner surface of the transparent cover **20** exactly abuts on the upper corners of the intellectual cube **30**.

Referring again to FIGS. 2, 4 and 6, the base **10** of the present invention can afford insertion of the intellectual cube **30** in various orientations. Such a feature allows a seller to optionally adjust the orientation of the intellectual cube **30** relative to viewing directions of customers for displaying. And plural intellectual cubes **30** can be disposed on a showcase after they are mounted on a plurality of bases **10** in various orientations. Thereby, the intellectual cubes **30** can be displayed for customers in such various orientations to enhance efficiency of displaying.

And as shown in FIGS. 3, 5 and 7, when an intellectual cube **30** is mounted on a base **10** in any desired orientation, and when a transparent cover **20** covers the base **10**, the inner wall of the transparent cover **20** will abut on the upper corners of the intellectual cube **30**. In this way, the intellectual cube **30** packed in the box structure will not be subjected to shaking and damage when in shipping.

And more, the base **10** is provided on the top thereof with through holes **17** in order to provide air flow, irrespective of whether the transparent cover **20** covers the base **10** or is removed therefrom, to prevent difficulty of covering or removing induced by difference of air pressure.

As shown in FIGS. 9 and 10, when in displaying or packing an intellectual cube of the present invention, a

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bench **40** is provided, and is provided on the top thereof with a plurality of insertion seats **41** for inserting in the bottom of a plurality of bases. Shapes of the insertion seats **41** are not limited; they can be a trough or a convex style. The bench **40** is provided for arrangement of a plurality of bases **10**. A plurality of intellectual cubes **30** can be placed on these bases **10** in different orientations, and the bases **10** are then assembled on the bench **40** to have the intellectual cubes **30** placed thereon in different orientations. The commercial value of the intellectual cubes **30** can then be increased.

As shown in FIGS. **11** and **12**, by virtue that magic intellectual cubes have a variety of specifications, such as 2×2×2, 4×4×4, 5×5×5 etc., the above stated bench **40** is used to make an arrangement for displaying used for packing, this can increase effect of displaying. And the transparent cover **20** covering the bases **10** can also be manufactured in a shape corresponding to that of the bench **40**. And the objects of displaying and packing can be achieved.

The present invention not only is beneficial to variation of angular disposition of the intellectual cubes, but also is beneficial to protection of the intellectual cubes during shipping and transporting the latter, for the intellectual cubes are well packed.

In conclusion, the box structure for intellectual cubes of the present invention can display the intellectual cubes in different orientations when it is well packed. The intellectual cubes will not shake in the box during shipping. The box structure is novel and improved.

Having thus described my invention, what I claim as new and desire to be secured by Letters Patent of the United States are:

1. A box structure for displaying an intellectual cube, said box comprising a base and a transparent cover wherein:
 - said base is provided with a surrounding annular groove, and is provided on the top thereof with a disk-shaped receiving platform having a wedge-shaped groove therein, said wedge-shaped groove being configured for disposing a corresponding wedge-shaped portion of an intellectual cube in said wedge-shaped groove;
 - disk-shaped receiving platform is further provided with a plurality of protruding seats corresponding in positions to those of the four corners of the said intellectual cube, the protruding seats are provided each with an open groove; the distance between every two of said open

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grooves is exactly for embedding of the intellectual cube within the limitation of said four protruding seats; the platform further including an inversed pyramid-shaped groove therein for disposing a corresponding pyramid-shaped part of the intellectual cube therein; whereby the intellectual cube is displayable in said box in multiple orientations.

2. The box structure of claim **1** wherein said wedge-shaped groove is formed directly by providing a V shaped groove on a top surface of said base so that the intellectual cube can be inserted obliquely therein.

3. The box structure of claim **1** wherein an inner surface of said transparent cover exactly abuts on the upper corners of the intellectual cube when said transparent cover covers said base and said intellectual cube is embedded in the open grooves of said protruding seats.

4. The box structure of claim **1** wherein an inner surface of said transparent cover exactly abuts on the upper corners of the intellectual cube when said transparent cover covers said base and the wedge-shaped portion of the intellectual cube is disposed within said wedge-shaped groove.

5. The box structure of claim **1** wherein an inner surface of said transparent cover exactly abuts on an upper corner of the intellectual cube when said transparent cover covers said base and the pyramid-shaped part of the intellectual cube is disposed in said pyramid-shaped groove.

6. The box structure of claim **1** wherein said base is provided on a top thereof with a plurality of through holes.

7. A bench for displaying a plurality of box structures; said bench comprising:

- a plurality of insertion seats on a top portion of said bench, each of said insertion seats being configured to receive the base of the box structure of claim **1** therein;
- a plurality of box structures placed in the top portion of said bench, each of said box structures being the box structure of claim **1**;
- with the proviso that each base is individually disposed in or on an insertion seat of said plurality of insertion seats.

8. The bench of claim **7** which further includes a transparent cover thereon which covers said bench, said transparent cover having a shape corresponding to said bench.

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